IN THE CLAIMS

Please amend the claims as follows:

1-30. (Canceled).

31. (New) For use in wireless network communications system comprising a plurality of base stations and a plurality of mobile stations, an apparatus for determining a distance from a base station to a mobile station, said apparatus comprising:

a distance unit associated with said base station wherein said distance unit is capable of

obtaining a two way travel time, wherein said two way travel time is a time of travel for a range signal to travel from said base station to said mobile station and to travel from said mobile station to said base station,

adjusting a value of said two way travel time to correct for signal conditions causing a time difference in arrival of said range signal at said base station,

determining a one way travel time D from:

$$D = \frac{1}{2} \left[\left(adjusted\ two\ way\ travel\ time \right) - \left(random\ backoff \right) \right]$$

wherein said random backoff is a time value of a chip length of a random backoff parameter of said mobile station, and

multiplying said one way travel time D by the speed of light to obtain said distance from said base station to said mobile station.

32. (New) The apparatus as set forth in Claim 31 wherein said distance unit is capable of adjusting said value of said two way travel time to correct a time difference of a multipath signal.

33. (New) The apparatus as set forth in Claim 31 wherein said distance unit is capable of adjusting said value of said two way travel time to correct a time difference of a Doppler shifted signal.

34. (New) The apparatus as set forth in Claim 31 wherein said distance unit is capable of obtaining said two way travel time by subtracting an arrival time of said range signal at said base station from said mobile station from a transmission time of said range signal from said base station to said mobile station.

35. (New) The apparatus as set forth in Claim 31 wherein said random backoff parameter for said mobile station has a chip length value between zero chip lengths and five hundred eleven chip lengths.

36. (New) The apparatus as set forth in Claim 35 wherein a time value for one chip length value is eight hundred thirteen and eight tenths nanoseconds.

37. (New) The apparatus as set forth in Claim 31 wherein said distance unit is capable of obtaining a distance from said base station to said mobile station with a distance resolution of approximately two hundred forty four meters.

38. (New) A wireless network communications system comprising a base station and a mobile station, said base station comprising an apparatus for determining a distance from said base station to said mobile station, said apparatus comprising:

a distance unit associated with said base station wherein said distance unit is capable of

obtaining a two way travel time, wherein said two way travel time is a time of travel for a range signal to travel from said base station to said mobile station and to travel from said mobile station to said base station,

adjusting a value of said two way travel time to correct for signal conditions causing a time difference in arrival of said range signal at said base station,

determining a one way travel time D from:

$$D = \frac{1}{2} \left[\left(adjusted\ two\ way\ travel\ time \right) - \left(random\ backoff \right) \right]$$

wherein said random backoff is a time value of a chip length of a random backoff parameter of said mobile station, and

multiplying said one way travel time D by the speed of light to obtain said distance from said base station to said mobile station.

39. (New) The apparatus as set forth in Claim 38 wherein said distance unit is capable of adjusting said value of said two way travel time to correct a time difference of a multipath signal.

40. (New) The apparatus as set forth in Claim 38 wherein said distance unit is capable of adjusting said value of said two way travel time to correct a time difference of a Doppler shifted signal.

41. (New) The apparatus as set forth in Claim 38 wherein said distance unit is capable of obtaining said two way travel time by subtracting an arrival time of said range signal at said base station from said mobile station from a transmission time of said range signal from said base station to said mobile station.

42. (New) The apparatus as set forth in Claim 38 wherein said random backoff parameter for said mobile station has a chip length value between zero chip lengths and five hundred eleven chip lengths.

43. (New) The apparatus as set forth in Claim 42 wherein a time value for one chip length value is eight hundred thirteen and eight tenths nanoseconds.

44. (New) The apparatus as set forth in Claim 38 wherein said distance unit is capable of obtaining a distance from said base station to said mobile station with a distance resolution of approximately two hundred forty four meters.

45. (New) For use in wireless network communications system comprising a base station and a mobile station, a method of determining a distance from the base station to the mobile station comprising the steps of:

obtaining with a distance unit associated with the base station a two way travel time, wherein the two way travel time is a time of travel for a range signal to travel from the base station to the mobile station and to travel from the mobile station to the base station;

adjusting a value of the two way travel time to correct for signal conditions causing a time difference in arrival of the range signal at the base station;

calculating a one way travel time D from:

$$D = \frac{1}{2} \left[\left(adjusted\ two\ way\ travel\ time \right) - \left(random\ backoff \right) \right]$$

wherein said random backoff is a time value of a chip length of a random backoff parameter of the mobile station; and

multiplying the one way travel time D by the speed of light to obtain the distance from the base station to the mobile station.

46. (New) The method as set forth in Claim 45 wherein the step of adjusting the value of the two way travel time adjusts the two way travel time to correct a time difference of a multipath signal.

47. (New) The method as set forth in Claim 45 wherein the step of adjusting the value of the two way travel time adjusts the two way travel time to correct a time difference of a Doppler shifted signal.

48. (New) The method as set forth in Claim 45 wherein the step of obtaining a two way travel time obtains the two way travel time by subtracting an arrival time of the range signal at the base station from the mobile station from a transmission time of the range signal from the base station to the mobile station.

49. (New) The method as set forth in Claim 45 wherein the random backoff parameter for the mobile station has a chip length value between zero chip lengths and five hundred eleven chip lengths.

50. (New) The method as set forth in Claim 45 wherein a time value for one chip length value is eight hundred thirteen and eight tenths nanoseconds.

51. (New) The method as set forth in Claim 45 further comprising the step of:

obtaining with the distance unit a distance from the base station to the mobile station with a distance resolution of approximately two hundred forty four meters.

52. (New) The method as set forth in Claim 45 wherein the distance unit determines a distance from the base station to the mobile station in less than ten seconds.

53. (New) For use in wireless network communications system comprising a plurality of base stations and a plurality of mobile stations, a method for locating a mobile station in an area between three base stations, said method comprising the steps of:

obtaining with a distance unit associated with each of the three base stations a two way travel time, wherein the two way travel time is a time of travel for a range signal to travel from each respective base station to the mobile station and to travel from the mobile station to each respective base station;

adjusting a value of each respective two way travel time to correct for signal conditions causing a time difference in arrival of each range signal at the respective base station;

calculating a one way travel time D from each respective base station to the mobile station where:

$$D = \frac{1}{2} \left[\left(adjusted\ two\ way\ travel\ time \right) - \left(random\ backoff \right) \right]$$

wherein said random backoff is a time value of a chip length of a random backoff parameter of the mobile station;

multiplying each respective one way travel time D by the speed of light to obtain the distance from each respective base station to the mobile station; and

identifying a location of the mobile station within the area between the three base stations using the respective distances of the mobile station from the three base stations.

54. (New) The method as set forth in Claim 53 wherein the step of adjusting the value of each respective two way travel time adjusts each respective two way travel time to correct a time difference of a signal comprising one of a multipath signal and a Doppler shifted signal.

55. (New) The method as set forth in Claim 53 wherein the step of identifying the location of the mobile station within the area between the three base stations comprises the steps of:

providing the respective distances of said mobile station from the three base stations to a calculator unit not located within the three base stations; and

calculating in said calculator unit a location of said mobile station from said respective distances of said mobile station from the three base stations.

56. (New) For use in wireless network communications system comprising a plurality of base stations and a plurality of mobile stations, an apparatus for locating a mobile station in an area between three base stations, said apparatus comprising:

a distance unit associated with each of said three base stations wherein said distance unit is capable of

obtaining a two way travel time, wherein said two way travel time is a time of travel for a range signal to travel from each respective base station to said mobile station and to travel from said mobile station to each respective base station,

adjusting a value of each respective two way travel time to correct for signal conditions causing a time difference in arrival of each said range signal at each respective base station,

determining a one way travel time D from each respective base station to the mobile station where:

$$D = \frac{1}{2} \left[\left(adjusted\ two\ way\ travel\ time \right) - \left(random\ backoff \right) \right]$$

wherein said random backoff is a time value of a chip length of a random backoff parameter of said mobile station,

multiplying each respective one way travel time D by the speed of light to obtain said distance from each respective base station to said mobile station, and

identifying a location of said mobile station within the area between said three base stations using said respective distances of said mobile station from said three base stations.

57. (New) The apparatus as set forth in Claim 56 wherein said distance unit is capable of adjusting said value of each respective two way travel time to correct a time difference of a signal comprising one of a multipath signal and a Doppler shifted signal.

58. (New) The apparatus as set forth in Claim 56 wherein said location of said mobile station within said area between said three base stations has a distance resolution of approximately two hundred forty four meters.

59. (New) The apparatus as set forth in Claim 56 wherein said distance unit is capable of calculating a location of said mobile station from said respective distances of said mobile station from said three base stations.

60. (New) The apparatus as set forth in Claim 56 further comprising:

a calculator unit coupled to said three base stations but not located within said three base stations, said calculator unit capable of receiving from said three base stations said respective distances of said mobile station from said three base stations;

wherein said calculator unit is capable of calculating a location of said mobile station from said respective distances of said mobile station from said three base stations.